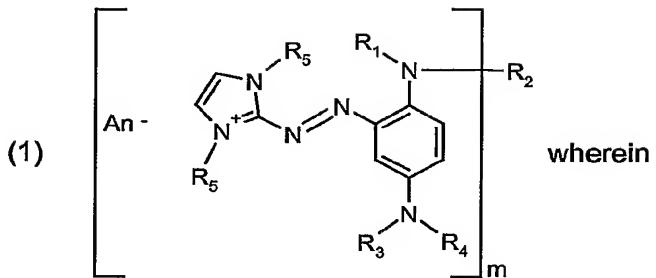


Claims:

1. Dye of formula



R₁ is hydrogen; C₁-C₁₄alkyl; hydroxy- C₁-C₁₄alkyl; C₂-C₁₄alkenyl; a radical of formula



C₁₀aryl; or C₆-C₁₀aryl-C₁-C₆alkyl;

R₃ is hydrogen; C₁-C₁₄alkyl; C₂-C₁₄alkenyl; C₆-C₁₀aryl; C₆-C₁₀aryl-C₁-C₆alkyl; or CO-R₆;

R₄ is CO-R₆;

R₅ is C₁-C₁₄alkyl; C₂-C₁₄alkenyl; C₆-C₁₀aryl; or C₆-C₁₀aryl-C₁-C₆alkyl;

R₆ is hydrogen; C₁-C₁₄alkyl; C₂-C₁₄alkenyl; or C₆-C₁₀aryl;

R₇, R₈, R₉ and R₁₀, independently from each other are hydrogen; or C₁-C₅alkyl;

m is 1; or 2;

An⁻ is an anion;

If m = 1,

R₂ is hydrogen; C₁-C₁₄alkyl; C₂-C₁₄alkenyl; a radical of formula (1a); a radical of formula



If m = 2,

R₂ is the direct bond; or C₁-C₁₄alkylene, which is optionally substituted by one or more C₁-C₄alkyl, or which is optionally interrupted by C₅-C₁₀arylene, -O- or -NR₉R₁₀-;

R₉ and R₁₀, independently from each other are hydrogen; or C₁-C₅alkyl; and

n₁, n₂, n₃ and n₄, independently from each other are a number from 0 to 5.

2. Dye according to claim 1, wherein

the anion is selected from a halide, sulfate, hydrogen sulfate, phosphate, boron tetrafluoride, carbonate, bicarbonate, oxalate or C₁-C₈alkyl sulfate, lactate, formate, acetate, propionate and a complex anion.

3. Dye according to claim 1 or 2, wherein

R₁ is hydrogen; or C₁-C₁₄alkyl;

R₃ is hydrogen; or C₁-C₁₄alkyl;

R₄ is CO-R₆;

R₅ is C₁-C₁₄alkyl;

R₆ is hydrogen; C₁-C₁₄alkyl; or C₆-C₁₀aryl;

m is 1; or 2;

An⁻ is an anion;

If m = 1,

R₂ is hydrogen; C₁-C₁₄alkyl; hydroxy-C₁-C₁₄alkyl a radical of formula (1a); or a radical of formula (1b);

if m = 2,

R₂ is the direct bond; or C₁-C₁₂alkylene, which is optionally substituted by one or more C₁-C₄alkyl or interrupted by -O-, or NR₉R₁₀; and

R₉ and R₁₀ independently from each other are hydrogen; or C₁-C₅alkyl.

4. Dye according to any of claims 1 to 3, which correspond to formula



R₁ is hydrogen; or C₁-C₁₄alkyl;

R₂ is hydrogen; C₁-C₁₄alkyl; a radical of formula (1a); or a radical of formula (1b);

R₃ is hydrogen; or C₁-C₁₄alkyl;

R₄ is CO-R₆;

R₅ is C₁-C₁₄alkyl;

R₆ is hydrogen; C₁-C₁₄alkyl; or C₆-C₁₀aryl; and

An⁻ is an anion.

5. Dye according to claim 4, wherein

R₁ is hydrogen; or C₁-C₄alkyl;

R₂ is C₁-C₁₄alkyl; a radical of formula (1a); or a radical of formula (1b);

An⁻ is an anion;

R₃ is hydrogen; or C₁-C₄alkyl;

R₄ is CO-R₆;

R₅ and R₆ independently from each other are C₁-C₄alkyl.

6. Dye according to claim 4 or 5, wherein

R₁ is hydrogen; or C₁-C₄alkyl;

R₂ is C₁-C₁₂alkyl; a radical of formula (1a); or a radical of formula (1b);

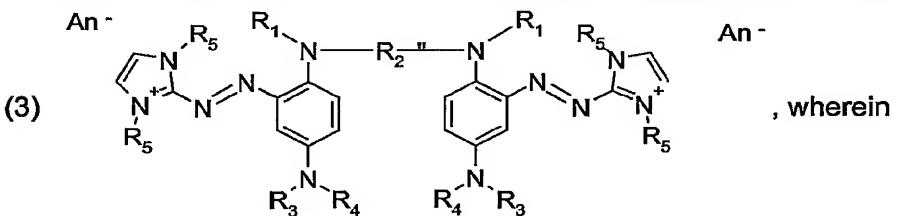
An⁻ is an anion;

R₃ is hydrogen; C₁-C₄alkyl; or

R₄ is CO-CH₃; and

R₅ is C₁-C₄alkyl.

7. Dye according to any of claims 1 to 3 which correspond to formula



R₁ is hydrogen; or C₁-C₁₄alkyl;

R₂ is the direct bond; or C₁-C₁₂alkylene, which is optionally substituted by one or more C₁-C₄alkyl or interrupted by -O-, or NR₉R₁₀;

R₃ is hydrogen; or C₁-C₁₄alkyl;

R₄ is CO-R₆;

R₅ is C₁-C₁₄alkyl;

R₆ is hydrogen; C₁-C₁₄alkyl; or C₆-C₁₀aryl; and

An⁻ is an anion.

8. Dye according to claim 7, wherein

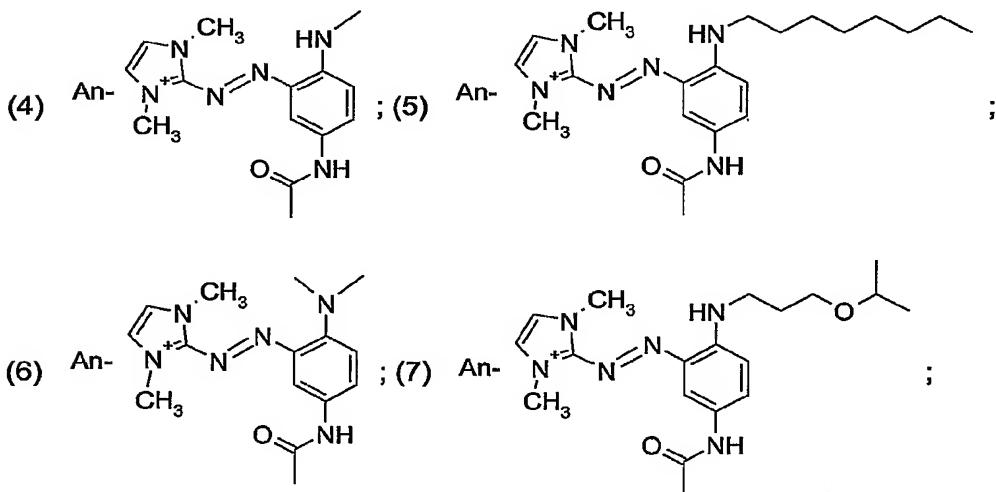
R₁ is hydrogen; or C₁-C₄alkyl;

R_2 is the direct bond; or C_1 - C_8 -alkylene, which is optionally substituted by one or more C_1 - C_4 alkyl or interrupted by $-O-$, or NR_9R_{10} ;
 R_3 is hydrogen; or C_1 - C_4 alkyl;
 R_4 is $CO-R_6$;
 R_5 is C_1 - C_4 alkyl;
 R_6 is C_1 - C_4 alkyl;
 R_9 and R_{10} independently from each other are hydrogen; or C_1 - C_5 alkyl; and
 An^- is an anion.

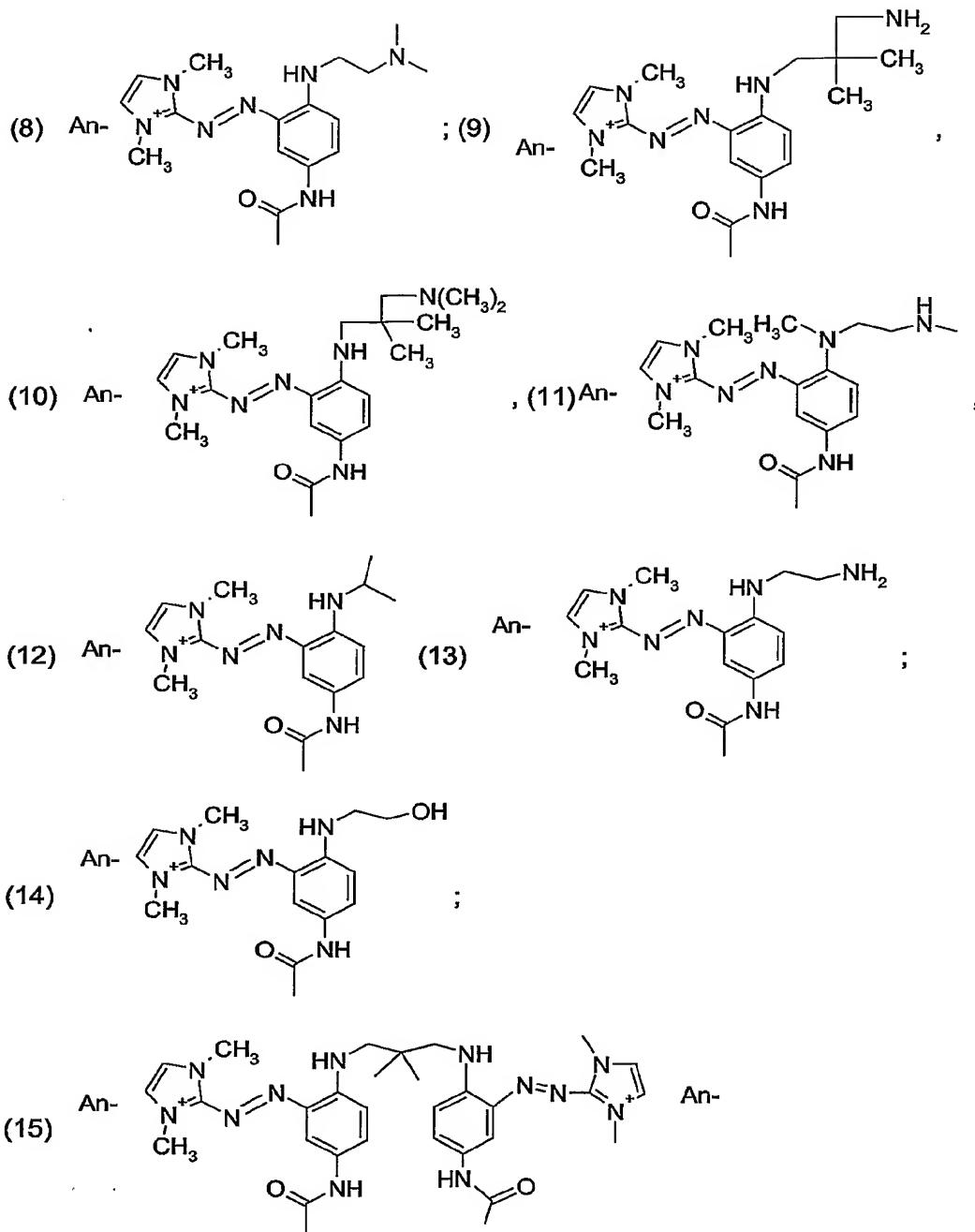
9. Dye according to claim 7 or 8, wherein

R_1 is hydrogen; or C_1 - C_4 alkyl;
 R_2 is the direct bond; or C_1 - C_8 -alkylene, which is optionally substituted by one or more C_1 - C_4 alkyl or interrupted by $-O-$, or NR_9R_{10} ;
 R_3 is hydrogen; or C_1 - C_4 alkyl;
 R_4 is $CO-CH_3$;
 R_5 is C_1 - C_4 alkyl;
 R_9 and R_{10} independently from each other are hydrogen; or C_1 - C_5 alkyl; and
 An^- is an anion.

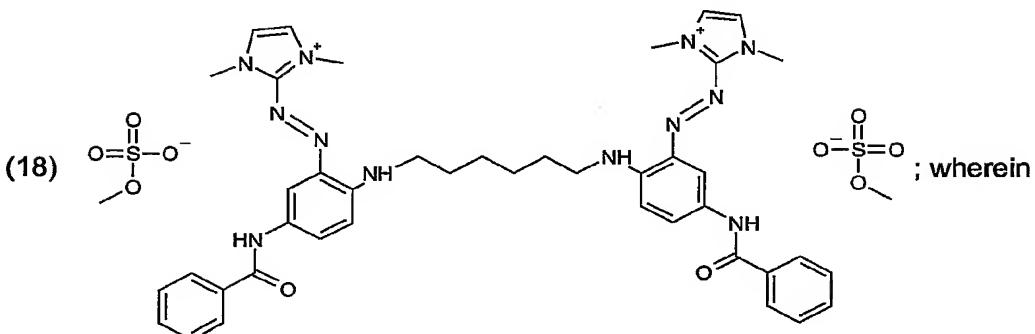
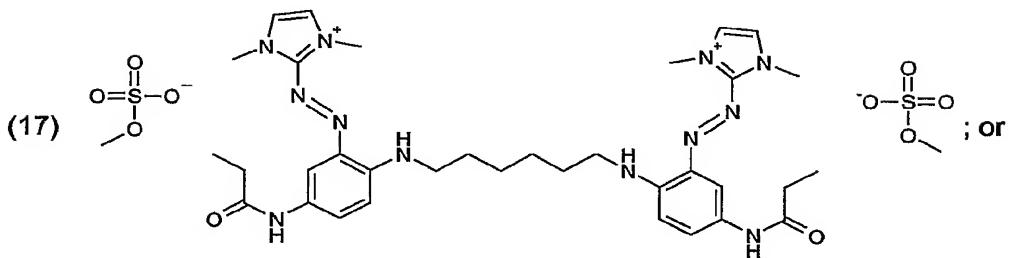
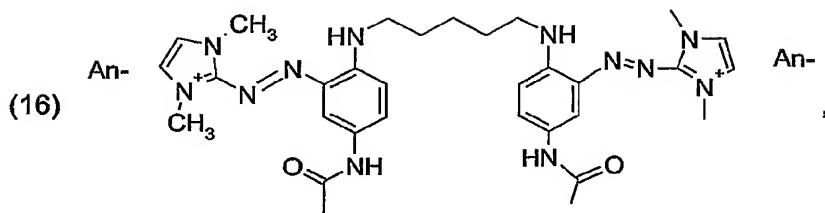
10. Dye according to any of claims 1 to 9 of formula



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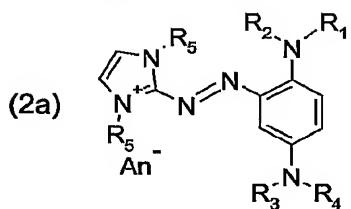


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An⁻ is an anion.

11. A dye of formula

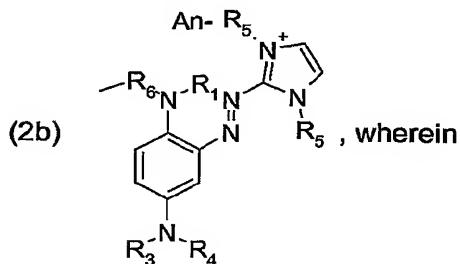


wherein

R₁ and R₂ are each independently of the other hydrogen; or unsubstituted or substituted C₁-C₁₄alkyl, allyl, aralkyl, preference is given to C₁-C₈alkyl, more preference to C₁-C₄alkyl, and most preference is given to methyl and ethyl, and especially most preference is given to methyl; or

R_1 is hydrogen, or unsubstituted or substituted C_1 - C_{14} alkyl, allyl, aralkyl, preference is given to C_1 - C_8 alkyl, more preference to C_1 - C_4 alkyl, and most preference is given to methyl and ethyl, and especially most preference is given to methyl, and

R_2 is substituent of formula



R_6 is unsubstituted or substituted C_1 - C_{14} alkylen; and

R_3 is hydrogen or an unsubstituted or substituted C_1 - C_{14} alkyl, allyl, aralkyl or $CO-R_1$;

R_4 is $CO-R_6$;

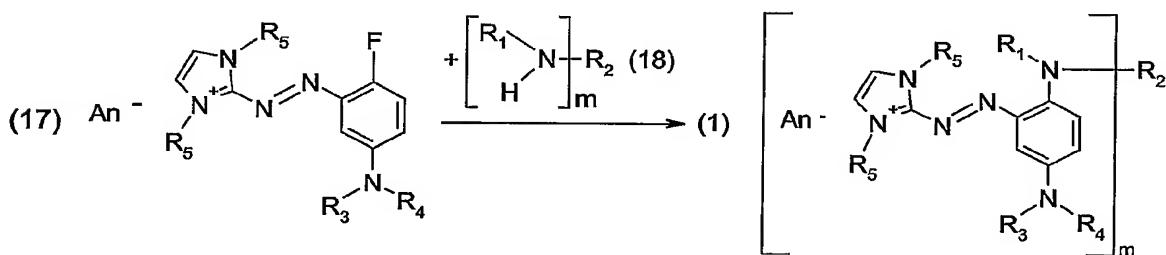
R_5 is unsubstituted or substituted C_1 - C_{14} alkyl, allyl or aralkyl;

R_9 is hydrogen; or unsubstituted or substituted C_1 - C_{14} alkyl, allyl or aralkyl, preference is given to unsubstituted C_1 - C_{14} alkyl, and more preference to methyl;

and

An^- is an anion.

12. A process for the preparation of dyes of formula (1) as defined in claim 1, comprising reacting a dye of formula (17) with an amine of formula (18) to give a compound of formula (1) according to the following reaction scheme:

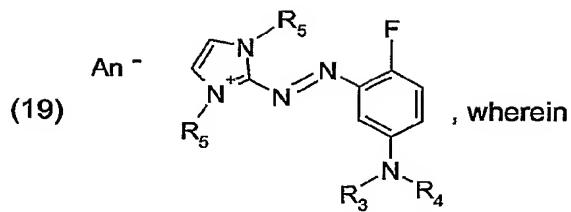


wherein

R_1 , R_2 , R_3 , R_4 , R_5 , m and An^- are defined as in claim 1.

13. Process for the preparation of dye of formula

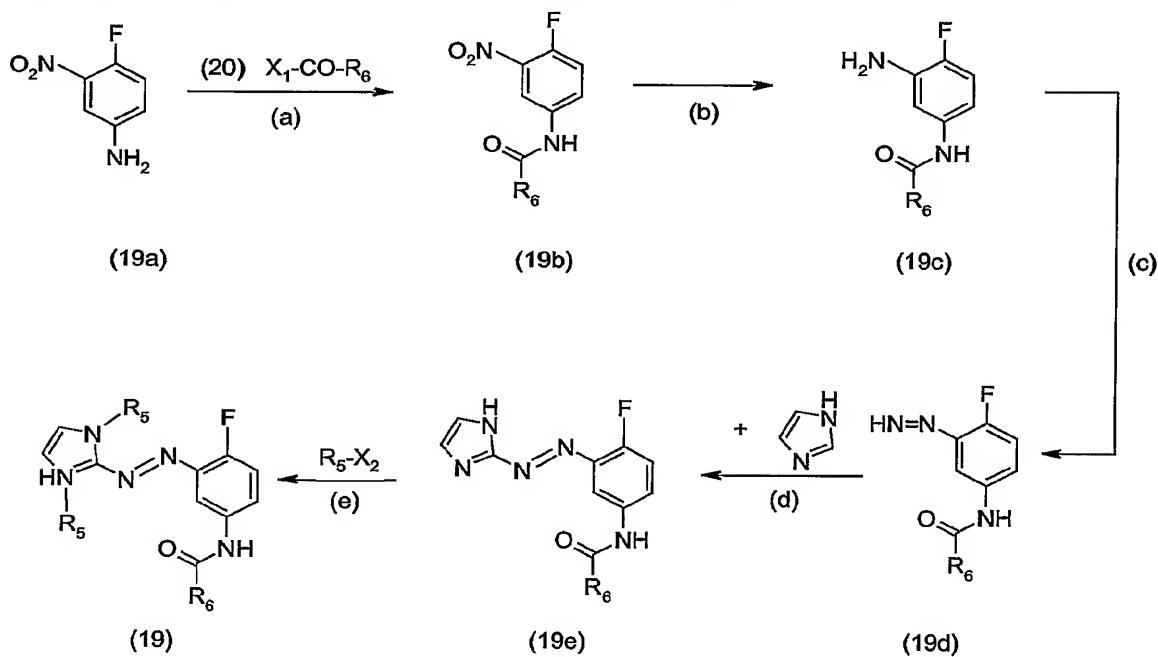
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R_3 is hydrogen; an

R_4 is $\text{CO}-R_6$, which is characterized by

- (a) acylating a 4-fluoro-3-nitroanil. of formula (19a) with an acylating agent of formula (20)
- (b) reducing the nitro group in formula (19b) to the amino group to give the compound of formula (19c),
- (c) diazotizing the compound of formula (19c) to give the compound of formula (19d),
- (d) coupling the diazotized compound of formula (17d) with imidazole to give the compound of formula (17e), and
- (e) alkylating the compound of formula (17e) with an alkylating agent to give the compound of formula (17), according to the following reaction scheme:



wherein

R_1, R_2, R_3, R_4, R_5 and R_6 are defined as in claim 1; and

X_1 and X_2 are halogen.

14. A composition comprising at least one dye of formula (1) as defined in claim 1.
15. A composition according to claim 14 comprising in addition at least one single further direct dye and/or an oxidative agent.
16. A composition according to claim 14 comprising in addition at least one single oxidative dye and/or; at least one single oxidative dye and an oxidative agent.
17. A composition according to any one of claims 14, 15 or 16 in form of a shampoo, a conditioner, a gel or an emulsion.
18. A method of dyeing organic material, which comprises treating the organic material with at least one dye of formula (1) according to claim 1, or a composition according to any of claims 14 to 17.
19. A method according to claim 18, which comprises treating the organic material with at least one dye of formula (1) as defined in claim 1 and an oxidative agent and, optionally, a further direct dye.
20. A method according to claim 18 and 19, which comprises treating the organic material with at least one compound of formula (1) as defined in claim 1 and at least one single oxidative dye, or treating the organic material with a dye of formula (1) as defined in claim 1 and at least one single oxidative dye and an oxidative agent.
21. A method according to any of claims 18 to 20 wherein the organic material is selected from keratin-containing fibers.
22. A method according to claim 21 wherein the keratin-containing fiber is human hair.